

**MANGALAM COLLEGE
OF
ENGINEERING**

***MANGALAM COLLEGE OF
ENGINEERING***

Phoenix

2k21

***;,no matter how many times we burst
into flames:***

We can always rise from the ashes;

DEPT OF

ELECTRONICS AND COMMUNICATION

Message



Dear students

It is my honor to address you today and offer some words of encouragement and guidance as you continue your studies at our college

First and foremost, I want to emphasize the importance of education. You have chosen to pursue higher education because you believe in the power of knowledge and the doors that it can open for you. I want to commend you for this decision, and I urge you to continue to value your education as you move forward.

Message



Dear students,

College life is a unique experience, and I encourage you to make the most of it. This is a time when you will make lifelong friends, learn new things, and discover your passions. It is also a time when you will face challenges and make mistakes. Remember that these experiences are all part of your personal and academic growth, and it is essential to learn from them.

I want to emphasize the importance of hard work and dedication. In college, success does not come easy. It takes effort, persistence, and a willingness to learn. Make a commitment to yourself to work hard and set high standards for yourself. Remember that you are here to acquire knowledge and skills that will prepare you for a successful career.

Message



To all of our students, I want to say that you have chosen an exciting and dynamic field of study. Electronics is at the forefront of innovation and technology, and it has the power to change the world in countless ways. As you embark on your journey as electronics professionals, I want to encourage you to stay focused, stay curious, and stay passionate

Remember that success in this field requires not only technical skills but also creativity, innovation, and teamwork. Embrace opportunities to learn and grow, and be willing to take calculated risks in pursuit of your goals. And above all, remember the importance of ethical and social responsibility in all that you do.

I believe that each and every one of you has the potential to make a positive impact in the world through your work in electronics. So, let's work together to cultivate that potential and create a brighter future for all.

Happiness is the vibe of the Moment !!

Most of the time ,we just spend our time in search the special moment in our life, These moments are just for a certain time span, after all it ends and life goes on. Our life is just like a travel and we are like a Traveller. I'm not saying, Life is a journey of joyfulness and all related thing. Yes, most of the times it is true But if we think about another side of the Our daily life, we have our own family, Our own lifestyle and a different mind sets.

Life is all about the actions that we take to look up the problems that we face daily. It's just like a perspective of each individual like after a heavy rains, some thoughts about floods and some thoughts about the happiness of farmers. It all depends on perspective of each one.

If we think about the darker side of the story then, we can't focus on the brighter side of the story. We always love the stories that actually gives the best perspective of living life, but why can't we think about the struggling part of the story? Because that doesn't gives us the vibe of happiness.

One should be Happy as a new born who have no worries about the upcoming struggles. He always tries to learn the basics of society, neither he thinks about the depressing part of life nor he thinks about the consequences that will happen in his near future.

By Devika Ra

EDUCATION / MASS PRODUCTION

Mankind has gone through a lot of advancements since the time it came into existence. The same can be said about the education system i.e. the journey from gurukuls to modern day schools or colleges. The purpose of education is to empower the person in as many ways possible. But the scenario nowadays is in total contrast. Much of the graduates completing their degree are unemployable. For ex- Every year 15 lakh engineering graduates pass out in overall country. More than half of them can't be employed in their respective fields as they lack the present day technological skills required by the employers. It gives us the idea that engineers are mass produced like some equipment made in a factory but they lack the skillset.

What might be the possible reasons behind this adverse condition? The marks driven education system of ours has given too much importance to marks rather than skills. It encourages mugging up topics rather than understanding and application of the same. Cheating in exams is also an outcome due to this lag in our present day education system as students want to score marks in any means possible. Due to this students may get passed in their exams but they lack the knowledge.

In most of the universities the syllabus taught is an old one i.e. unchanged from 15-20 years. This results in unnecessary learning of some old concepts or theories which are not in present day use and missing out certain latest technologies. Emphasis on practical knowledge is very less and more importance is given to mugging up theories and principles in the curriculum.

What is the Solution? The employers and the institutions must have to work together to make changes to the curriculum in order to meet the needs of the industries. New methods of teaching should be employed in this era of internet. Professionals or experienced engineers from the industry could share their real time experience and knowledge with the students. More and

more attention should be given to the practical knowledge. Unnecessary assignments must be done away with.

The students must be encouraged to do more and more internships or technical courses. Some of the technical courses could be taught in their college itself. Innovation friendly environment should be created in the colleges. Importance should be given to solve the current day problems through the use of technical knowledge.

In order to improve overall learning experience eLearning content must be made available which is frequently updated by industry professionals instead of using static textbooks. In this way rich content would be made available to the students. Blended learning should be introduced where both physical and online sessions of teaching could be done. Teachers should be trained to deliver online classes which would result in availability of trained teachers within the reach of large number of students. All-round development of the students must be given importance along with the curricular activities. It is time where we choose a learning-centric system rather than examination or assessment centric system so that the learners are allowed to select subjects based on their interests and pursue it to completion which in return would definitely turn the tides and would result in the rise of

employability.

by Sudev AS

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Justin Kuriakose Sunil

VISION OF THE DEPARTMENT

To achieve excellent standards in technical education and engage research in the field of Electronics and Communication Engineering creating employable and innovative professionals who can excel in global challenges

MISSION OF THE DEPARTMENT

- 1. To practice innovative teaching and learning practices in Electronics and Communication domain with effective curriculum enhancement and Industry collaboration.**
- 2. To inspire creative enquiry and innovation in students through excellent training programs and projects for professional skills.**
- 3. To imbibe a sense of team work ethics combined with social responsibility in students.**

PROGRAM EDUCATIONAL OBJECTIVES

PEO 1: Graduates will possess knowledge to understand the concept of core electronics and communication subjects which will facilitate solving problems of society.

PEO 2: Graduates will have self-learning skills and life-long learning attitude and have a successful career in industries and

R&D organizations to solve real world problems or obtain admission in institutes of higher learning.

PEO 3: Graduate will be able to effectively communicate their ideas through written or oral medium and be part of multidisciplinary teams and will uphold the ethical values with a sense of responsibility to environment and societynse of team work ethics combined with social responsibility in students.

- 1. Engineering knowledge:** Apply the knowledge of mathematics, science, Mechanical Engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2. Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and Mechanical Engineering sciences.
- 3. Design/development of solutions:** Design solutions for complex Mechanical Engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- 4. Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions in the field of Mechanical Engineering.
- 5. Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex Mechanical Engineering activities with an understanding of the limitations.
- 6. The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional Mechanical Engineering practice.
- 7. Environment and sustainability:** Understand the impact of the professional Mechanical Engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- 8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- 9. Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- 10. Communication:** Communicate effectively on complex Mechanical Engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- 11. Project management and finance:** Demonstrate knowledge and understanding of the Mechanical Engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- 12. Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PUBG Mobile Game Addiction

PUBG is a term you must have probably heard by now. It is the abbreviated form of PlayerUnknown's Battleground. Basically, it is a video game which is a multiplayer battle royale game. It is very famous all over the world. However, the entertainment factor does not mean it is all good. The game has become viral and is played by billions of people. The players have become addicted to this game. Moreover, it is hampering their quality of life.

Impact of PUBG Mobile Game Addiction

When the game got released for Windows, it received rave reviews. Further, upon being released on mobile phones, it caught like wildfire. The craze for this game spread amongst all the age groups. What started as a recreation game has now turned into an addiction. It is severely impacting the lives of the players and also resulting in various crimes. For instance, a boy killed himself due to PUBG mobile game addiction. The game interferes greatly with the studies of a person. The students

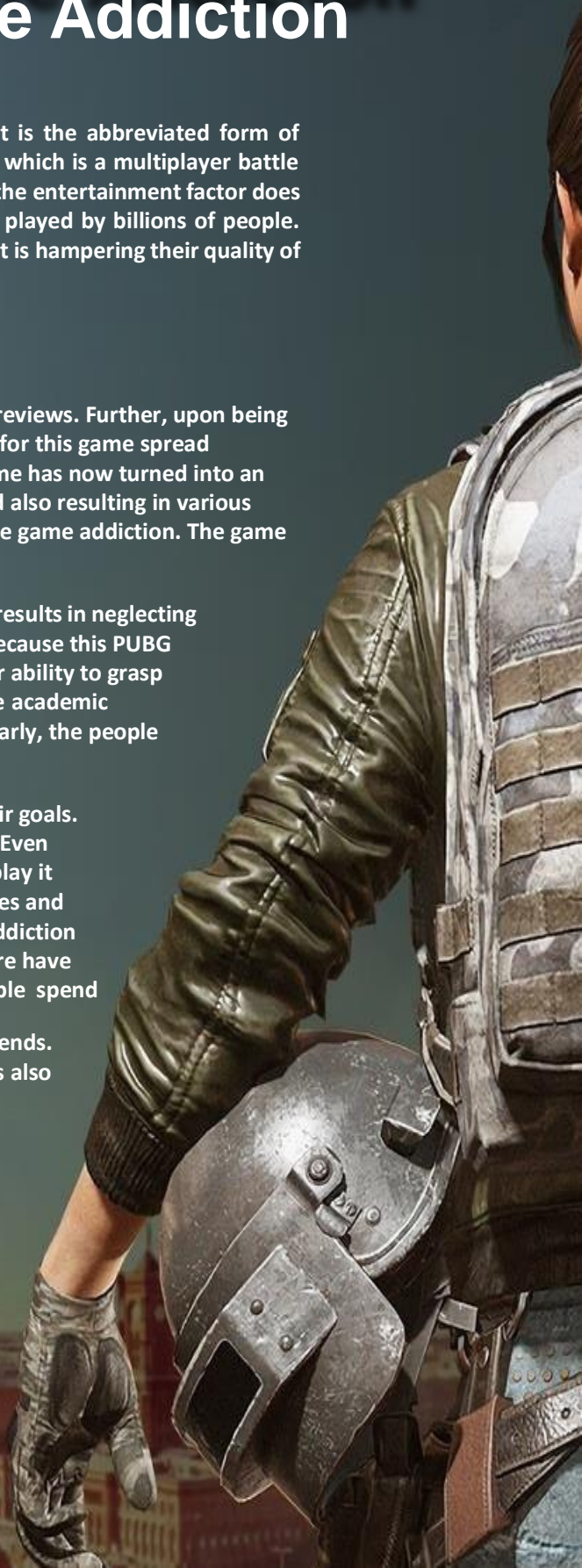
who should be studying waste their time on this game. This results in neglecting studies and also in reduced levels of concentration. It is so because this PUBG mobile game addiction slows down their brain activity. Their ability to grasp things and focus just lowers. Even research suggests that the academic performance of PUBG players is dropping massively. Similarly, the people who are working are also addicted to this game.

It hampers their work and makes them lose the target of their goals. They are busy playing it instead of focusing on their careers. Even more, than the players take leaves or skip meetings just to play it endlessly. Due to this addiction, they also miss their deadlines and don't fulfill their duties. Furthermore, PUBG mobile game addiction ruins the relationships of people. It has even done so as there have been cases of breakups and divorces due to this game. People spend

all their time on this time instead of with their family and friends. It strains their relationships and causes pain. Similarly, it has also resulted in many crime of murder and suicide.

How to Control PUBG Mobile Game Addiction?

We all know that excess of anything is bad, be it a video game or anything. However, one must also know that we can control any addiction by proper measures. To begin with, try to lessen the Time you spend on the game. Leaving it all of a sudden is impractical so set aside a fixed time and try to play it in that specific one. Similarly, try to divert your mind. Do not always stay indoors.



MY GIRL FRIEND

You are the angel of my life you know me as so well ,

whenever there is the
loss of hope or, when bad
situation dwell.

That is why you are
my bestie , love you
for what you are,
you are the person
in my life, my super
shining star.

The only person I love is
the fairy naming you,
you are the person whom I believe
b'cus, my life is blessed by you.

The reason for my love
is you but not fashion
my love is not a toy
but for you it's my
passion

By Stephane abraham

LIFE A FLOW

LIFE GOES WITH A FLOW SOMETIMES HIDES, SOMETIMES SHOW,

AT TIMES IT IS YET, OR IT IS NO! SOMETIMES IT IS HIGH, OR LOW.....

LIFE IS TO FEEL IT, LIKE AIR...

LIFE IS TO SEE & ACHIEVE IT LIKE GOAL BUT WE WASTE IT IN “LIKE, COMMENT & SHARE”

THERE IS NO SHORTCUT TO TOP WE HAVE TO SCROLL

LIFE IS WHAT TO PUT ON TOP GEAR, LIFE IS WHAT TO WIN, JUST MORE TWO STEPS MORE
!

LIFE IS NOT JUST TO PASS...

THE WORLD CANNOT SEE A HOLE IN THE LIFE'S GLASS...

LIFE IS A RACE !

TO WIN JUST MAINTAIN THE PACE. TO TOP JUST COMPLETE YOUR CHASE LIFE GOES WITH
A FLOW

NOT TOO FAST NOT

TOO SLOW....

BY SREEJISH K PILLAI

Smooth-talking AI assistants

New techniques that capture semantic relationships between words are making machines better at understanding natural language. We're used to AI assistants—Alexa playing music in the livingroom, Siri setting alarms on your phone—but they haven't really lived up to their alleged smarts. They were supposed to have simplify our lives, but they've barely made a dent. They recognize only a narrow range of directives and are easily tripped up by deviations.

But some recent advances are about to expand your digital assistant's repertoire. In June 2018, researchers at OpenAI developed a technique that trains an AI on unlabeled text to avoid the expense and time of categorizing and tagging all the data manually. A few months later, a team at Google unveiled a system called BERT that learned how to predict missing words by studying millions of sentences. In a multiple-choice test, it did as well as humans at filling in gaps. These improvements, coupled with better speech synthesis, are letting us move from giving AI assistants simple commands to having conversations with them. They'll be able to deal with daily minutiae like taking meeting notes, finding information, or shopping online.

Some are already here. Google Duplex, the eerily human-like upgrade of Google Assistant can pick up your calls to screen for spammers and telemarketers. It can

also make calls for you to schedule restaurant reservations or salon appointments.

In China, consumers are getting used to Alibaba's AliMe which coordinates package deliveries over the phone and haggles about the price of goods over chat. But while AI programs have gotten better at figuring out what you want, they still can't understand a sentence. Lines are scripted or

generated statistically, reflecting how hard it is to imbue machines with true language understanding. Once we cross

that hurdle, we'll see yet another evolution, perhaps from

logistics coordinator to babysitter, teacher — or even friend

By Anagha Rakesh

LIFE AS A NIGHT STUDENT

Life as a night student can be quite different from that of a typical day student. Night students typically attend classes in the evening, typically from around 6 PM to 10 PM or later, depending on the program and the school. Here are some aspects of life as a night student that you might experience:

- 1. Balancing Work and School:** Night students often work during the day, so they must balance their work schedules with their school schedules. This can be challenging, especially if you have a job that requires a lot of hours or has a rigid schedule.
- 2. Social Life:** Night students may find it challenging to maintain a social life because they are in class when their friends and family are often free. This can lead to feelings of isolation, which can be challenging to overcome.
- 3. Time Management:** Night students must have excellent time management skills to ensure they have enough time to study and complete assignments. It's essential to prioritize and plan your time carefully, so you don't fall behind in your studies.
- 4. Sleep Schedule:** Night classes may disrupt your sleep schedule, which can affect your overall health and wellbeing. It's important to find ways to ensure you're getting enough rest, such as taking power naps or adjusting your schedule to accommodate your classes.
- 5. Flexibility:** Night students must be flexible and adaptable because their schedules are often subject to change. They may need to adjust their work schedules, take on different responsibilities, or juggle unexpected commitments.
- 6. Motivation:** Night students need to stay motivated to succeed in their studies. It's important to remind yourself why you are pursuing your education and to stay focused on your goals.

Overall, life as a night student can be challenging, but it's also rewarding. With the right mindset, dedication, and support, you can succeed in your studies and achieve your academic goals.

Experience of Studying Abroad

Studying abroad is an enriching experience that offers students the opportunity to expand their knowledge, skills, and perspectives. It's an excellent chance to explore new cultures, learn new languages, and make lifelong connections with people from around the world. Here are some of the experiences you might have when studying abroad:

- 1. Cultural Immersion:** One of the most exciting aspects of studying abroad is the opportunity to immerse yourself in a new culture. You can explore new foods, customs, and traditions that are unique to the country you're visiting. By learning about another culture, you will gain a deeper understanding of the world and become more open-minded.
- 2. Language Learning:** Studying abroad is an excellent chance to improve your language skills. By living in a foreign country, you will be exposed to the language on a daily basis, which can help you to become more fluent and confident in your communication.
- 3. Academic Opportunities:** Studying abroad provides access to academic programs and courses that may not be available in your home country. You can learn from renowned professors and experts in your field of study, and gain a fresh perspective on your subject.
- 4. Independence:** Studying abroad is an excellent opportunity to develop independence and self-reliance. You will need to navigate new surroundings, learn to live independently, and manage your finances. These experiences will help you grow and become more self-sufficient.
- 5. Networking:** Studying abroad provides opportunities to connect with people from around the world. You can build international networks and relationships that can help you in your future career and personal life.
- 6. Adventure:** Studying abroad can be an adventure, with opportunities to explore new cities, landscapes, and activities. You can travel and discover new places, and have experiences that you will cherish for a lifetime.

Overall, studying abroad is an incredible experience that can transform your life in countless ways. By immersing yourself in a new culture and academic program, you can expand your horizons, gain new perspectives, and become a more well-rounded person.

By Sebin PS

ENTREPRENEURSHIP

Entrepreneurship is a vital component of a thriving economy. It is the process of identifying an opportunity and creating a business venture to exploit it. Entrepreneurs are innovative thinkers who develop new products, services, or ideas to address problems and meet the needs of customers.

Entrepreneurship involves risk-taking, persistence, and a clear vision of what one wants to achieve. Starting a new business venture involves taking calculated risks, such as investing time and money into an uncertain outcome. It requires persistence and resilience to learn from failures and keep pushing forward.

Having a clear vision is essential for successful entrepreneurship. Entrepreneurs must have a specific idea of what they want to achieve and how they will make it happen. This vision serves as a roadmap for decision-making and helps to keep entrepreneurs focused on their goals.

Adaptability is also crucial in entrepreneurship. Market conditions, customer needs, and other factors can change quickly, and entrepreneurs must be able to pivot and adjust their plans accordingly.

Networking is also essential for entrepreneurship. Building strong relationships with investors, mentors, and other entrepreneurs can be crucial to success. These relationships can provide support, funding, and valuable advice.

In conclusion, entrepreneurship is an exciting and challenging journey that can be incredibly rewarding for those who are willing to take the risks and put in the hard work. It requires a combination of creativity, persistence, adaptability, and a clear vision to turn an idea into a successful business venture. Entrepreneurs are the driving force behind innovation and economic growth, and their contributions are essential to the success of any economy.

Ways to Get Involved with Undergraduate Research

Undergraduate research provides students with an excellent opportunity to develop critical thinking, problem-solving, and research skills. It also offers a chance to work closely with faculty and other students, engage in cutting-edge research, and contribute to the advancement of knowledge. Here are some ways to get involved with undergraduate research:

1).Check with your university: Many universities have research programs and centers that offer undergraduate research opportunities. Check with your university's research office to see what opportunities are available and how to apply.

2).Talk to professors: Professors often have ongoing research projects and may be looking for undergraduate students to assist with their work. Talk to your professors to find out what research projects they are working on and if they are looking for undergraduate research assistants.

3).Attend research seminars: Many universities host research seminars and events that are open to the public. Attend these events to learn more about the research being conducted at your university and to meet other students and faculty members interested in research.

4).Join a research club or organization: Many universities have research clubs or organizations that are dedicated to promoting undergraduate research. Joining one of these groups can provide you with valuable networking opportunities and access to research resources.

5).Apply for research grants: Some universities and outside organizations offer research grants specifically for undergraduate students. These grants can provide funding for research projects, equipment, or travel expenses.

6).Participate in research competitions: Many universities and organizations host research competitions that are open to undergraduate students. Participating in these competitions can provide you with valuable research experience and recognition for your work.

7).In conclusion, undergraduate research provides students with an excellent opportunity to develop valuable skills, work closely with faculty and other students, and contribute to the advancement of knowledge. There are many ways to get involved with undergraduate research, from checking with your university's research office to participating in research competitions. By taking advantage of these opportunities, you can gain valuable research experience and set yourself apart as a competitive candidate in your future academic and professional endeavors.

What we do after B.Tech

Completing a Bachelor of Technology (B.Tech) is a significant milestone in the academic journey of an engineering student. It opens up a plethora of opportunities, and choosing the right path after B.Tech is crucial. Here are some options to consider after completing your B.Tech:

Pursue higher education: After completing your B.Tech, you can pursue higher education by enrolling in a Master of Technology (M.Tech) program or other postgraduate courses such as MBA, M.Sc, or PhD. Pursuing higher education can help you gain a deeper understanding of your field of study and enhance your career prospects.

Get a job: Many companies hire fresh graduates with a B.Tech degree. You can start looking for job opportunities that match your skills and interests. You can apply for jobs in various sectors such as IT, manufacturing, construction, and government.

Start your own business: If you have an entrepreneurial spirit, you can start your own business. This requires a lot of hard work and dedication, but it can be incredibly rewarding if you succeed. You can start small, work on your idea, and then expand your business as you gain experience.

Prepare for competitive exams: You can prepare for competitive exams such as the Graduate Aptitude Test in Engineering (GATE), Engineering Services Examination (ESE), or Civil Services Examination (CSE). These exams can open up new career opportunities in government organizations and other sectors.

Pursue a career in research: You can also pursue a career in research by working in research institutions, laboratories, or academic institutions. This requires a strong interest in research and the ability to work independently.

In conclusion, there are many options to consider after completing your B.Tech. You can pursue higher education, get a job, start your own business, prepare for competitive exams, or pursue a career in research. Whatever path you choose, it is important to have a clear understanding of your skills and interests, and to work hard to achieve your goals. By making the right choices and working hard, you can achieve success and make a meaningful contribution to society.

By Ajumal TJ

How to become a Sigma male

Sigma male is a term used to describe a person who is independent, self-sufficient, and doesn't conform to societal norms. They are often described as being aloof, introspective, and introverted, but can also be highly successful and influential. If you are interested in becoming a Sigma male, there are several steps you can take to achieve this lifestyle.

Step 1: Embrace Your Individuality

The first step in becoming a Sigma male is to embrace your individuality. This means accepting who you are, regardless of what society thinks. You need to be comfortable with being different and standing out from the crowd. Sigma males are often described as being independent thinkers who don't conform to traditional societal norms.

Step 2: Focus on Personal Development

Sigma males are known for their intelligence, self-awareness, and ability to think critically. To become a Sigma male, you need to focus on your personal development. This means reading books, learning new skills, and challenging yourself intellectually. Sigma males are often highly educated and have a strong desire to learn and grow.

Step 3: Develop a Strong Work Ethic

Sigma males are known for their strong work ethic and their ability to achieve success on their own terms. To become a Sigma male, you need to develop a strong work ethic and be willing to put in the time and effort required to achieve your goals. This means setting clear goals, developing a plan to achieve them, and working hard to make them a reality.

Step 4: Cultivate a Healthy Sense of Skepticism

Sigma males are often described as being skeptical and critical thinkers. They are not afraid to question authority or challenge conventional wisdom. To become a Sigma male, you need to cultivate a healthy sense of skepticism and be willing to question everything. This means not accepting things at face value and doing your own research to uncover the truth.

Step 5: Build Strong Relationships

Sigma males are not hermits who live in isolation. They understand the importance of building strong relationships with people who share their values and goals. To become a Sigma male, you need to build strong relationships with like-minded people who can support you and help you achieve your goals. This means networking, attending events, and joining communities where you can meet people who share your interests.

Step 6: Take Risks and Embrace Failure

Sigma males are known for their willingness to take risks and embrace failure. They understand that failure is a necessary part of the learning process and are not afraid to try new things. To become a Sigma male, you need to be willing to take risks and embrace failure as an opportunity to learn and grow.

In conclusion, becoming a Sigma male is all about embracing your individuality, focusing on personal development, developing a strong work ethic, cultivating a healthy sense of skepticism, building strong relationships, and taking risks and embracing failure. By following these steps, you can become a highly successful and influential Sigma male who lives life on your own terms.

By Justin Kuriakose Sunil

About Electronics technology

Electronics technology is an interdisciplinary field that encompasses the study, design, and application of electronic systems, devices, and circuits. This technology has revolutionized the way we live, work, and communicate in modern society. In this article, we will explore the different aspects of electronics technology, including its history, applications, and future prospects.

History of Electronics Technology

The history of electronics technology dates back to the early 19th century when scientists began to explore the relationship between electricity and magnetism. In 1820, Danish physicist Hans Christian Ørsted discovered that electric currents could create magnetic fields. This discovery paved the way for further research in electromagnetism and led to the development of electric motors and generators.

In 1876, Scottish physicist James Clerk Maxwell published his theory of electromagnetic waves, which predicted the existence of radio waves. This theory was later confirmed by Italian physicist Guglielmo Marconi, who conducted the first successful radio transmission across the English Channel in 1899.

The invention of the transistor in 1947 by American physicists John Bardeen, Walter Brattain, and William Shockley revolutionized the field of electronics. Transistors replaced vacuum tubes, which were bulky and unreliable, and made it possible to develop smaller, more efficient electronic devices. This led to the development of modern electronics technology, including computers, mobile phones, and other portable electronic devices.

Applications of Electronics Technology

Electronics technology has many applications in various fields, including communication, entertainment, medicine, and transportation. Here are some of the most common applications of electronics technology:

Communication: Electronic devices such as mobile phones, computers, and televisions rely on electronics technology to function. These devices use electronic components such as transistors, microprocessors, and sensors to process and transmit information.

Entertainment: Electronics technology has revolutionized the entertainment industry by making it possible to create and distribute music, movies, and other forms of media digitally. Electronic devices such as cameras, microphones, and audio recorders have also made it easier to capture and share media.

Medicine: Electronics technology has made significant contributions to the field of medicine, including the development of medical imaging technologies such as X-rays, CT scans, and MRI machines. Electronic devices such as pacemakers, insulin pumps, and other medical devices have also saved countless lives.

Transportation: Electronic devices such as GPS systems, radar detectors, and electronic toll collection systems have made transportation safer and more efficient. Electronic components such as sensors, microprocessors, and actuators are also used in the design and manufacture of cars, airplanes, and other vehicles.

Future Prospects of Electronics Technology

The future of electronics technology is promising, with new developments in fields such as nanotechnology, artificial intelligence, and robotics. Here are some of the areas where electronics technology is expected to make significant advances in the coming years:

Nanotechnology: Nanotechnology involves the manipulation of matter at the atomic and molecular level. Electronics technology is expected to play a critical role in the development of nanoscale electronic devices, which could lead to the creation of more efficient and powerful electronic devices.

Artificial Intelligence: Artificial intelligence (AI) is a field of computer science that involves the development of intelligent machines that can perform tasks that normally require human intelligence. Electronics technology is expected to play a critical role in the development of AI systems, including the development of sensors, microprocessors, and other electronic components.

Robotics: Robotics is a field that involves the design and manufacture of robots. Electronics technology is expected to play a critical role in the development of advanced robots that can perform complex tasks in various industries, including manufacturing, healthcare, and transportation

In conclusion, electronics technology has had a significant impact on modern society, revolutionizing the way we live,

By Angel CK

Embedded systems

Embedded systems are computing systems designed to perform specific tasks or functions within larger systems. These systems are often found in everyday devices such as cars, home appliances, and medical equipment, and are essential to the operation of these devices. In this article, we will explore the different aspects of embedded systems, including their history, design, and applications.

History of Embedded Systems

The history of embedded systems dates back to the mid-1960s when American engineer Jack Kilby invented the first integrated circuit. This invention paved the way for the development of embedded systems, which rely on integrated circuits to perform their functions. In the 1970s, the development of microprocessors made it possible to create smaller and more efficient embedded systems, leading to the widespread adoption of these systems in various industries.

Design of Embedded Systems

The design of embedded systems involves several stages, including system requirements, hardware design, software design, and testing. Here are the different stages of embedded systems design:

System Requirements: The first stage of embedded systems design involves identifying the system requirements, including the device's purpose, performance requirements, and power consumption requirements. The system requirements will dictate the design of the hardware and software components.

Hardware Design: The next stage involves the design of the hardware components, including the microcontroller, memory, sensors, and other peripherals. The hardware design must meet the system requirements while minimizing power consumption and cost.

Software Design: The software design stage involves the development of the software that controls the hardware components. The software must be designed to perform the desired functions while minimizing power consumption and memory usage.

Testing: The final stage involves testing the embedded system to ensure that it meets the system requirements and performs its functions correctly. Testing involves both software and hardware testing and may include simulation, debugging, and performance testing.

Applications of Embedded Systems

Embedded systems have many applications in various industries, including automotive, aerospace, medical, and consumer electronics. Here are some of the most common applications of embedded systems:

Automotive: Embedded systems are essential to the operation of modern cars, controlling functions such as engine management, airbag deployment, and entertainment systems.

Aerospace: Embedded systems are used in aircraft to control navigation, communication, and other systems. These systems must be highly reliable and operate in extreme conditions.

Medical: Embedded systems are used in medical devices such as pacemakers, insulin pumps, and infusion pumps to monitor and control patient conditions. These systems must be highly reliable and operate for extended periods without maintenance.

Consumer Electronics: Embedded systems are found in everyday devices such as smartphones, smart home devices, and gaming consoles, controlling functions such as communication, entertainment, and home automation.

Future Prospects of Embedded Systems

The future of embedded systems is promising, with new developments in fields such as artificial intelligence, machine learning, and the Internet of Things (IoT). Here are some of the

areas where embedded systems are expected to make significant advances in the coming years:

Artificial Intelligence: Embedded systems are expected to play a critical role in the development of artificial intelligence systems, including the development of intelligent sensors, processors, and other components.

Machine Learning: Embedded systems are also expected to play a critical role in the development of machine learning systems, including the development of neural networks and other algorithms that can learn from data.

Internet of Things: The Internet of Things (IoT) involves the integration of devices and sensors into a networked system. Embedded systems are essential to the operation of IoT devices, controlling functions such as data collection, processing, and communication.

Conclusion

In conclusion, embedded systems are essential to the operation of modern devices and systems, performing specific functions and tasks within larger systems. The design of embedded systems involves several stages, including system requirements, hardware

By Sreelekshmi

Bluetooth

Bluetooth is a wireless communication technology that allows devices to communicate with each other over short distances without the need for cables or wires. It has become an essential part of modern life, with Bluetooth-enabled devices being used in a wide range of applications, including smartphones, wireless headphones, smartwatches, and even automobiles.

History of Bluetooth

Bluetooth technology was first developed in the mid-1990s by a group of engineers working for Ericsson, a telecommunications company based in Sweden. The original goal of the project was to develop a wireless alternative to the RS-232 data cable, which was commonly used to connect computers and peripherals.

The technology was named after Harald Bluetooth, a Danish king from the 10th century who is known for his ability to unite disparate factions. The name was chosen because Bluetooth technology was designed to unify different communication protocols and allow devices to communicate with each other regardless of their manufacturer or operating system.

How Bluetooth Works

Bluetooth technology works by using radio waves to transmit data between devices. The radio waves are transmitted using a frequency of 2.4 GHz, which is a frequency that is reserved for unlicensed use in many countries.

When two Bluetooth-enabled devices are within range of each other, they can establish a connection and begin to communicate with each other. This connection is established using a process called pairing, which involves exchanging a series of unique identifiers that allow the devices to recognize and communicate with each other.

Once the devices are paired, they can exchange data wirelessly. This data can include audio, video, text, and other types of information.

Types of Bluetooth

There are several different versions of Bluetooth technology, each with its own set of features and capabilities. The most common versions are:

Bluetooth Classic: This is the original version of Bluetooth technology, which is used for many applications, including wireless headphones, keyboards, and mice.

Bluetooth Low Energy (BLE): This version of Bluetooth is designed for low-power applications, such as fitness trackers and smartwatches.

Bluetooth 5: This is the latest version of Bluetooth technology, which offers increased range, faster data transfer speeds, and improved battery life.

Applications of Bluetooth

Bluetooth technology is used in many different applications, including:

Audio: Bluetooth is commonly used to transmit audio data wirelessly, allowing users to listen to music or make phone calls without the need for cables or wires.

Smart Home: Bluetooth technology is used in many smart home devices, such as smart locks, thermostats, and lighting systems, allowing users to control these devices from their smartphones.

Automotive: Many modern automobiles come equipped with Bluetooth technology, which allows drivers to make phone calls and stream music wirelessly.

Healthcare: Bluetooth technology is used in many healthcare applications, such as medical devices and fitness trackers, allowing patients to monitor their health and wellness wirelessly.

Future of Bluetooth

The future of Bluetooth technology is promising, with new developments in areas such as audio quality, range, and battery life. Bluetooth 5, the latest version of Bluetooth technology, is already making significant advances in these areas, and further improvements are expected in the coming years.

conclusion

In conclusion, Bluetooth technology is a versatile and essential form of wireless communication that is used in many different applications. Bluetooth-enabled devices are used in a wide range of industries, including audio, automotive, healthcare, and smart home, and the technology is expected to continue to advance and improve in the coming years. With its ability to transmit data wirelessly, Bluetooth technology has become an essential part of modern life, and it will continue to play a significant role in the development of new technologies and applications.

By Rahul R Nath